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Conservation Education Looks Ahead

By R. H. ECKELBERRY

THE recent Workshop on a Program of Conservation Education for the Schools of Ohio constituted a long step forward in the development of an adequate instructional program in this important field. The Workshop was sponsored by the State Department of Education, the State Division of Conservation and Natural Resources, the Conference of Deans of Education of the five state universities, and the Miami Workshop Committee of the Ohio Superintendents' Association. It was held in Columbus on February 12, 13, and 14. Some 50 persons participated, including about 30 elementary-school and secondary-school teachers, who had been given leaves of absence to attend, together with principals, superintendents, college teachers, and specialists in various subject-matter fields related to conservation.

This was not a workshop in conservation but in conservation education: its purpose was to suggest ways in which the facts and principles of conservation can be taught more effectively, especially in the elementary and secondary schools. It was an outgrowth of the Miami Workshop on a Program for Public School Education in Ohio, one chapter of whose report is devoted to this general problem.[1]

The first session was devoted to presenting the purpose and plan of the Workshop, the situation concerning various aspects of conservation (water, minerals, soils, forests, and wild life) in Ohio, and the social and educational implications of conservation. In the following sessions, four major problems were considered: How can teachers be aided to become sufficiently familiar with basic facts and concepts of conservation? How can teachers be helped to become familiar with local resources for teaching conservation? How can they be helped to study

[1] "Conservation and Consumer Education," *A Program for Public School Education in Ohio*. Columbus, Ohio: Miami Workshop Committee, 1944, pp. 27–34.

and experiment with methods of using conservation facts and concepts in their teaching? What types of leadership are needed to secure effective conservation education, and how can they be secured? These problems were dealt with by a method similar to that used at the Miami Workshop.[2] At the final session, plans for a follow-up to secure action in line with the conclusions of the Workshop were discussed.[3]

Members of the Workshop, in agreement with most students of the problem, emphasized the principle that conservation, instead of being taught as a separate subject, should be an emphasis running through many fields of subject-matter—science, agriculture, home economics, social studies, and others. Many individual teachers in these various fields are doing effective teaching of conservation, but until conservation facts and principles permeate the entire curriculum from the kindergarten to the twelfth grade, the schools will not be rendering the service they should. In order that they may do so, local school administrators and their staffs should co-operate in the systematic revision of their curriculums. The curriculums should provide for the study of conservation not only from printed materials but also by firsthand field experience. Every community has a wealth of resources which can be used in the direct study of conservation problems: fields, forests, streams, parks, mines, quarries, factories, waterworks, and so on. Each school should prepare and keep up-to-date an inventory of these. Where possible, schools should acquire tracts of land on which they can observe natural processes related to conservation and practice reforestation and other conservation measures. High-school and elementary-school supervisors, in evaluating schools, should take cognizance of the ways in which conservation is taught and practiced.

It was recognized that most teachers and administrators are not so well qualified as they should be to carry out such a program, and much attention was given to ways in which they can be stimulated and helped to do a better job. A basic course in conservation education should be required of every prospec-

[2] For a description of this method, *see* "The Miami Workshop," EDUCATIONAL RESEARCH BULLETIN, XXIII (September 20, 1944), pp. 163–64.

[3] The report of the Workshop is to be published by the Ohio Division of Conservation and Natural Resources; it will set forth in detail the conclusions and recommendations. In this brief article, only a few of the more important ones can be indicated.

tive elementary-school teacher and every prospective secondary-school teacher of science, social studies, agriculture, and home economics, and should be made available to other teachers in training. Moreover, the same principle should apply to the curriculums of teacher-training institutions as to those of elementary and secondary schools: conservation should be an element in many subject-matter fields. Institutions should take steps to see that members of their staffs become competent with respect to it. The teacher of the special course in conservation education should assist other members of the faculty in teaching conservation in connection with their own subjects. The State Department of Education should require from every teacher-training institution evidence that it is providing adequate training in this field, as a condition of receiving or retaining approval to train teachers.

While pre-service training is important, in-service training is more urgent. Soil erosion and waste of water, minerals, and other resources will not wait while a new group of teachers is being trained to teach a new generation of pupils. Various means of in-service training of teachers, administrators, and members of college staffs were proposed. Professional organizations should provide in their programs for the discussion of problems in this field. Local administrators and teacher-training institutions should provide conferences, institutes, workshops, and laboratories of from a few days to several weeks. Boards of education should make it possible for teachers to attend them at the schools' expense. The State Department of Education should stimulate the preparation, and arrange for the dissemination and exchange, of conservation education materials, including printed matter, specimens, apparatus, and audio and visual aids.

As a means of providing leadership on the state level, the Workshop recommended the provision in the State Department of Education of a supervisor of conservation education with an adequate staff and budget. He should work with the other members of the Department, professional organizations, teacher-training institutions, school administrators, and teachers in carrying forward the various aspects of the program. He should also secure the co-operation of persons and agencies outside the field of public education—government officials,

specialists in various technical fields, private organizations interested in conservation, and so on—who have important contributions to make. He should be responsible for the preparation and dissemination of conservation-education materials.

Such, very briefly, are some of the high points in the recommendations of the Workshop. It is to be hoped that they may speedily be translated into action. The need for conservation of natural resources is more urgent than ever. For a long time we have been depleting our resources at a rapid rate; this has necessarily been accelerated in wartime. Fields have been overcropped and underfertilized, pastures overgrazed, forests overcut, and water and minerals used with a lavish hand. At best, it will take a long time to reverse the process of depleting our renewable resources and develop sound policies and habits with respect to those which are non-renewable. The problem is fundamentally one of education and calls for action.

ARRANGEMENTS have already been made to carry out one of the recommendations of the Workshop: the Conservation Laboratory for elementary and secondary teachers, which has been conducted during each of the five past summers, is to be continued this summer. The Laboratory was developed by Ollie E. Fink, who from 1939 to 1944 was curriculum supervisor of conservation education in the State Department of Education.[4] Under the leadership of Mr. Fink, who has served as director from the beginning, the Laboratory attained a national reputation.[5] In 1944 Mr. Fink resigned his position in the State Department of Education to become executive secretary of the Friends of the Land, one of the most important national organizations interested in conservation.

The Laboratory this year will be operated as a joint project of the College of Agriculture and the College of Education of the Ohio State University, in co-operation with the State Division of Conservation and Natural Resources and the State Department of Education. It will be held at Camp Muskingum on Leesville Lake in Carroll County from June 18 to July 25. H. L. Bowman, superintendent of schools at Bowling Green,

[4] His salary and that of a field naturalist in conservation education were paid from funds provided by the State Division of Conservation and Natural Resources.

[5] For an account of the Laboratory during its first four years, *see* R. H. Eckelberry, "A Project in Teacher Education," EDUCATIONAL RESEARCH BULLETIN, XXIII (February 16, 1944), pp. 39–45.

[*Continued on page 84*]

Program in Personnel Relations

By CARROLL L. SHARTLE

PROGRAMS in the field of personnel and industrial relations have been established by several universities during the past year. This action is a result of a realization of the rôle that universities will be called upon to perform in the conversion and postwar periods. It is anticipated that problems in the field of personnel will be large and important. Universities must be closely associated with these problems nationally and locally in order that service may be rendered and that curriculums will reflect the needs of the times.

The Ohio State University has established a new university-wide program of research, service, and instruction in the field of personnel relations in business, industry, government, and education. An Advisory Committee is being established, the members of which are outstanding in the personnel-relations field and are now affiliated with business, industry, education, government, and organized labor.

The program also includes technical services to education, industry, business, and government. This is accomplished, for example, through institutes, workshops, internships, and consultation with specialists. The results of both the research and services are incorporated in the appropriate regular college curriculums to aid the University in the development of its courses.

The Program of Personnel Relations has as its foundation a distinguished and continuous program of research. Problems which call for immediate as well as long-range research are investigated. Both phases of research are useful to the University in its instructional program and in its services to business, education, government, and industry.

THE following is a summary of present research plans for the University. Some of the projects are already under way. Others will be started later when funds are available.

Personnel Practices for Small Business—Frequently the statement is made that small business is handicapped because a personnel department cannot be supported. Studies should be made in co-operation with small business to determine which personnel practices are necessary and feasible and how they may be applied. By co-operative arrangement with the

University, small business would obtain information and services that might otherwise not be available.

Workers' Attitudes—While some progress has been made in the methods of measuring the attitudes of workers, a good deal of research still remains to be undertaken. Both management and labor are interested in such studies and their co-operation with the University could lead to the development of research which would have wide usefulness.

Scope of Personnel Administration—There is need to develop standards in terms of costs, results, component parts, and optimum size of various personnel organizations. The University proposes to carry out such research in co-operation with a number of establishments of different sizes and types. Included in this research will be an attempt to develop quantitative standards for measuring the effectiveness of the performance of personnel departments. Such criteria are necessary in order to determine the feasible scope and limits of personnel administration.

Organization and Executive Leadership—There is a wide variety of organizational patterns and a variation in the manner in which executives carry out their work. It is proposed to study selected organization structures with the view to determining which types of executive methods are best suited to various types of organizational patterns.

Combating Absenteeism—Absenteeism is a problem which requires careful study regarding its causes, and the feasible methods of reduction. The University plans to work with several plants and several unions in carrying out such a research project.

Study of Executive and Supervisory Talents—Questions are often raised regarding executive and supervisory talent. For example, how can it be measured, and how early in life can it be discovered? The University proposes to work co-operatively with business, industry, government, and education in studying such aspects as the groupings of various types of executive and supervisory positions, and the development of measures of the traits and other qualifications required for such positions.

Job Potentialities in Ohio—Students and job seekers could plan their courses of study and select job careers much more effectively if they knew the relative opportunities in various fields. The University proposes to work with governmental agencies, employers, and unions in developing and making available such information.

Job Analysis for Distributive Industries—The University plans to co-operate with a number of establishments in the distributive industries in studying job-analysis methods and in preparing a guide for job analysis and job specifications which are suitable for the retail trade, the wholesale trade, and other phases of the distributive field.

Practical Problems of Wages—Problems in connection with wages

in industry, government, and education are now and will likely remain numerous and important. The University will undertake to make certain studies from which it is believed practical benefits can result. There is the problem of the yearly annual wage. How feasible is it? If feasible, how can it be put into effect? There is also the problem of incentives and their relationship to wage problems. The University plans to pursue immediately one or two phases of this problem in co-operation with industry, business, government, education, and organized labor.

Sales Engineering—One of the important occupations in the engineering field has been that of sales engineering. The University will undertake studies regarding the definition and scope of sales engineering, the personal requirements for success in this occupation, and how the University curriculum should be best arranged for preparing students for sales-engineering jobs. It is planned to contact a number of employers of sales engineers and to work with them co-operatively in discovering important factors which both the University and employers need to know about this occupation.

Studies of Graduate and Undergraduate Engineers—The University, employers, students, and graduates are interested in criteria for the selection of candidates for admission to study engineering. Research on the University campus as well as in establishments employing engineers is now being undertaken.

A study is also being undertaken to discover what graduate engineers do for a living, one, five, ten, twenty years after graduation from college. The evaluation of aims, content, and emphasis in engineering education will be studied in relationship to the results of this investigation.

Re-Engineering Jobs for the Handicapped—It is important that jobs be studied in an effort to employ fully, handicapped workers. The University in co-operation with a number of different establishments plans to determine the possibility of redesigning working arrangements (work place, standard tools, machine tools, and the like) in order to enable physically handicapped employees to function effectively.

Study of Tool Engineers—The University has begun a nation-wide study of tool engineers in co-operation with the American Society of Tool Engineers. The duties of and qualifications for jobs now being held by tool engineers are being studied together with the probable resulting effects of these findings on the courses of study offered in technical schools, colleges, and universities.

Evaluation of Interviewing and Counseling—A study is already in progress evaluating some of the basic techniques in personnel work, particularly those of interviewing, group counseling, and discussion groups in education and also in industry. The effect of providing recreational facilities for students, using student committees, living in co-operative houses, and other methods are being studied and appraised.

Supply and Demand of Personnel Workers—Although personnel workers are widely employed in business, industry, education, and government, little is known regarding the current and future demand for such workers, especially in relation to the numbers being trained. This is a desirable field of research to which the University is already giving attention.

Jobs in Radio and Television—An analysis will be made of jobs in the radio broadcasting industry and aptitude measures and other predictors of success will be developed. The study will be extended to include jobs which are developing in television and frequency modulation.

Learning to Fly—The University with its new airport has provided unusual facilities for making studies of the psychological factors in learning to fly various types of aircraft. This work is already in progress and emphasis is being given at present to the adjustment of selection standards and the improvement of training methods. As new types of aircraft are developed they will be utilized to determine the qualifications needed for learning to fly them and how instructional methods can be improved to facilitate training.

Physical and Mental Health of Teachers—The main object of this research is to identify the dominant factors which lead to physical and mental ill health among teachers. As a result of this research certain legislation will be recommended on health standards, health examinations, health insurance, and standards for selection.

THE Personnel Research Board maintains an office on the University campus. Through this office information may be obtained regarding the facilities of the University in the field of personnel relations. Problems which are referred to the University by outside organizations and establishments are routed through the office of the Personnel Research Board. Projects of research, service, and instruction are carried out, however, by the existing colleges, departments, and other administrative units.

Developing a Community School-Building Program[1]

By W. R. FLESHER

World War I was followed by a period of economic prosperity, which, in turn, was followed by a period of economic depression. These extreme economic conditions may be attributed in part to the failure of the nation to make plans for the postwar period while the war was in progress. It would seem that the American citizenry has learned some lessons from the conditions following the last great war if postwar planning commissions and committees already created or in the process of creation may be taken as an indication. Planning for educational developments is a part of this general planning. Educational leaders are giving individual and group consideration to anticipated postwar educational needs. Many boards of education are making, or having made, community surveys in order that carefully formulated school-building plans will be ready for the time when construction of school buildings can be resumed. It is assumed by many that after the present war there will be some program of Federal financial assistance for public works, including new school buildings. It is hoped that if there is such assistance, school buildings will be planned and built with greater care than was often the case under the Public Works Administration and other Federal agencies prior to the present war.

During the war years, construction of school buildings has almost completely ceased due to building restrictions imposed by the Federal government in order to conserve critical materials. Because of these restrictions school-building maintenance programs also have been very much limited, resulting in increased deterioration of existing school buildings. The American Association of School Administrators estimates conservatively that at least one billion dollars will be needed in the postwar period to meet the building needs of the nation's public schools.

School buildings should reflect changes in educational needs

[1] The substance of this article appeared in "Steps in Community Planning for a School-Building Program," by W. R. Flesher and T. C. Holy, *School Executive*, LXIV (March, 1945), pp. 60–62. It is presented here, with the approval of the managing editor of that magazine, as an introduction to a group of articles on school surveys in Ohio.

and practices. Rapidly changing educational needs often produce obsolescence in buildings soon after they are built, especially if they have been constructed with little regard to educational trends. Largely because of standards of safety established by building codes, most school buildings are so constructed that they will be used for school purposes for at least fifty years. Schoolhouse planning in terms of type of structure, materials used, and educational functioning often has not kept pace with the best in educational planning. The natural result is that today there are many school buildings which are structurally sound and which provide classrooms with walls, floors, and ceilings but which are so lacking in flexibility of use and other than classroom facilities that the effective operation of a modern school program is seriously hampered. New buildings should be constructed not only with the present educational program in mind but also in terms of any future educational changes that can be anticipated.

CERTAIN factors in operation before the present war will undoubtedly continue after the war to influence educational programs and buildings. Among such factors are:

1. Until 1941 an increasing high-school enrollment due largely to compulsory-education and child-labor legislation, making building and program changes necessary in order to house the greater numbers and to provide suitable educational programs for the less academic minded.
2. An increased emphasis upon educational facilities in both the elementary and secondary schools to provide more than mere academic preparation, supplementing textbook education with various activities and enterprises.
3. Greater attention to the education of the atypical child—the mentally, emotionally, and physically handicapped as well as the gifted child.
4. Increased emphasis on adult education and wider community use of school facilities.
5. More use of audio-visual aids in education.
6. Decentralization of urban population, resulting largely from the greater use of the automobile and the improvement of thoroughfares. The use of the airplane after the war may further increase this decentralization of city population.

In addition to these influences, there are certain changes which will undoubtedly result directly from the war itself. The

emphasis of the armed services upon physical fitness will probably be reflected in expanded health and physical-education programs and facilities of the public schools in the postwar period. The lessons learned from industry and the armed services in terms of vocational and technical training will probably affect public-school offerings after the war. These two influences, together with those already in existence before the war, have definite implications for school buildings and sites. Larger outdoor recreation spaces will be needed. Increased physical-education and health facilities will probably have to be provided. Additional classrooms, especially shops and other types of special classrooms, will be required. Facilities for the education of handicapped and especially gifted children will be desirable. Additional instructional aids to supplement the usual textbook emphasis will be necessary.

Many communities realize the need for planning school-building programs. The fact that the Federal government has, during the war, placed restrictions on this type of construction has caused a piling up of building needs in many communities. A community that is looking forward to a school-building program after the war should begin to plan for it now. This planning should be community-wide. The board of education and the administrative, supervisory, and teaching staffs of the schools should provide the educational leadership required for such planning. These groups, however, should not undertake the task without enlisting the co-operation of community leaders and organizations. Data collected by the community's planning commission should be made available to those who are to plan for the school buildings of the community. The development of the program of school building should not be considered complete unless it includes plans for the execution of the program and for its appraisal when completed.

ONCE a community has decided to study its school-building needs, it should develop and execute the planning step by step, keeping in mind the influences already mentioned which will undoubtedly affect the future school program and the housing for such a program. A brief statement follows of each of the eleven steps which a community should consider in planning its school-building program.

The first step is the choice of a method of studying the school-building needs of the community. There is a variety of ways in which the study may be made. The necessary research may be done within the community by its own educational and community leaders. A second method is to employ outside experts to do the work. A third method is to have the research done locally and to use outside authorities as consultants. A choice of method will depend largely upon the availability of local personnel, the amount of research to be done, and the money which can be made available for the survey.

As the second step, the research and survey staff selected should make a general study of the characteristics of the community which have a bearing upon the problem. Included in this phase of the study should be a consideration of the following factors: the racial, social, economic, civic, and educational characteristics of the community; the growth or decline of the community in terms of residences, industries, total population, and territory; the school population to be served; the present educational program of the community; and the financial ability and willingness of the community to support a program of school building. In connection with this step, the work of the local community's planning commission should be taken into consideration as well as pertinent information gathered or plans made by other community groups.

In terms of the survey of the community as outlined in the preceding step as well as in terms of modern educational theory and practice, the third step involves a determination and analysis of the educational needs which are to be provided for largely by the community's public schools. These needs will have implications for many phases of the public-school program: philosophy of education, instructional program, staff, finance, buildings, and others. These needs should be carefully studied and organized at all points where they have a direct or indirect bearing upon school housing.

The educational needs of the community having been determined, the fourth step is concerned with the consideration of the educational policies of the board of education and its administrative staff. Such a consideration should include: a formulation of educational philosophy and objectives; development of an instructional program in terms of the philosophy and objectives; a choice of vertical school organization by means of which

the instructional program will be put into effect. In connection with the last-named item, the school authorities will need to decide what grades are to be included in the elementary schools and what ones in the secondary schools, whether or not the high schools will include junior and senior divisions, whether or not there is to be a downward extension of the school organization to include kindergarten and nursery schools, and whether or not the organization is to be extended upward to include post-high-school preparation and adult education. Consideration should also be given to the extent and kind of use of the school facilities by the community.

The fifth step is to determine the housing needed for the school program. In terms of the community's educational needs and the educational policies of the board of education, the general physical facilities that will be needed can be determined. The educational needs and policies will determine the types of buildings needed. A study of the school population, both present and estimated future, distributed among the various levels of the vertical school organization chosen as a part of the fourth step will determine the approximate number of buildings needed.

Having determined the kind of educational program to be provided and the types and approximate number of buildings needed, the survey staff, in the sixth step, should study each building of the existing school plant in order to determine to what extent and with what degree of adequacy it provides facilities for the future program of education. The buildings are usually evaluated by means of standard score cards designed for this purpose. The present utilization of each building, both as to room use and pupil-station use, should be computed in order to determine unused building capacity or overcrowded conditions.

THE evaluation of the existing school plant in terms of the proposed educational program will undoubtedly reveal certain plant inadequacies. As the seventh step, the proposed school-building program should be developed in terms of these inadequacies as well as in terms of the proposed educational program and the distribution of the school population both as to present distribution and estimated future distribution. Residential spot maps of present school population are essential in

determining the number, sizes, and locations of buildings needed.

This step in the planning is a very important one, and the details should be worked out very carefully. The proposed program must indicate what buildings should be abandoned as school centers, what buildings should be replaced, what new school centers should be established, what alterations should be made to buildings retained in use, and in what areas future sites should be acquired for later school centers. The proposed program should indicate also the major kinds of facilities to be provided in each type of building; for example, whether library rooms are to be provided in the elementary schools and swimming pools in the secondary schools. The program proposed is not complete unless the cost of the program is estimated and a plan for financing this cost suggested.

Since the board of education is the agency that usually authorizes a study of school-building needs, and since the execution of a school-building program is largely the responsibility of the board of education, it is necessary as the eighth step that the board officially adopt the proposed plan or some modification of it. This implies that the board of education must likewise adopt a plan for financing the program.

It is assumed that lay representatives of the community will have had a part in the planning of the school-building program up to this point, and that the board of education, in its consideration of the proposed plan, will have had the benefit of their reactions before it adopts the proposed plan. This is important in the planning, for if the community leaders have had a share in it and are convinced of the merits of the adopted plan, they can be instrumental in selling the plan to the community.

Although it is presumed that community leaders have had a share in the development of the school-building program, it is obvious that its details will not be known by the community at large. In almost all cases the financing of the program will have to be authorized by the voters of the community either in the form of bonds or a building levy. As the ninth step, the citizens of the community, therefore, should be acquainted with the proposed program in order that it may have their voted support. The publicity campaign for winning the support of the

community should be carefully organized so that all groups are reached, and so that the publicity material provided for each of the general groups is of a type that is interesting to, and can be understood by, the particular group.

Assuming that the financing of the adopted plan has been authorized by the voters or that the financing is provided for by some other means, the tenth step is to see that the adopted plan becomes a reality. The detailed facilities to be provided in each type of building and for each curricular area should be worked out in co-operation with those members of the staff most closely affected. This must be done prior to the preparation of the working drawings and specifications. The plan to be used by the Cincinnati public schools in carrying out a $16,000,000 school-building program authorized by the voters in November, 1944, is commendable. Provision has been made there for the appointment by the superintendent of schools of 7 general committees dealing with types of buildings and 23 special curricular committees to work with the representatives of the board of education charged with the responsibility for the educational planning and with the architects in carrying the plan to execution.

A school-building program is not complete unless it provides for an evaluation of the results of the executed plan. Such an evaluation constitutes the eleventh and final step. The evaluation should be continuous and should have as its primary aim to determine how well the resulting school plant is meeting the educational needs of the community. Such an evaluation is basic to a continuous school-building program in the future or to periodic reorganizations in the use of the school plant.

How to Make a Resource Unit[1]

One of the most promising trends in secondary-school methods is that toward unit teaching in place of conventional textbook and daily-lesson teaching. This trend has been less pronounced than would otherwise have been the case, because of a variety of factors; among them are the insecurity of teachers in breaking away from familiar methods, the lack of time and suitable materials, and the concept of the curriculum as fixed. Nevertheless, the trend is important.

Within this trend are many variations, some of which are indicated by the different names used for teaching units—unit of work, unit of experience, activity unit, and so on. The writers prefer the term *learning unit*. A learning unit, as they conceive it, is a series of interrelated learning experiences directed toward the attainment of certain values which are significant in meeting life problems in a democratic society.

The use of the unit method of teaching calls for a reinterpretation of current concepts of planning. Planning should be a continuous and co-operative process on the part of teacher and students. But pre-planning by the teacher is essential; in fact, more pre-planning is necessary for unit teaching than for teaching by conventional methods.

One of the types of material which a teacher may use in his pre-planning is the resource unit. A resource unit is a systematic and comprehensive survey, analysis, and organization of the possible resources (e.g., problems, issues, activities, bibliographies, and the like) which a teacher might utilize in planning, developing, and evaluating a learning unit. It should be based on a major area or problem of living related to the needs of pupils. It should be designed not only to help a teacher in preplanning a learning unit but to review the significant factors of an area of living, and to suggest experience which the teacher and the students might have to enrich living in that area.

It is important to distinguish carefully between a resource unit and a learning unit. A resource unit usually is not prepared for a particular class and includes materials for more

[1] This article is condensed from a mimeographed bulletin of the same title, prepared by the following graduate students in secondary education under the direction of H. B. Alberty: Carmen Castro-Pozo, Anna Carol Fults, Vernal Mann, Eugene Stanley, W. F. Tidwell, and Alberta Young.

than one grade-level, while a learning unit is planned for a particular group of students. A resource unit offers material for a number of learning units, while a learning unit is for use in a specific teaching situation, and may draw upon several resource units. A resource unit is planned by a teacher or group of teachers to be used by the teacher; a learning unit is planned co-operatively by teacher and students.

A RESOURCE unit should never be considered complete but should be subject to continuous revision. In using it, teacher and pupils should not be limited by the suggestions it offers but should use them as points of departure in further planning of teaching units. It should stimulate and guide, but not limit, the process of class planning.

The variety of good resource units which may be constructed is infinite. But if they are to be in line with a democratic philosophy of education, certain criteria should be employed in constructing and evaluating them. A resource unit should be based upon a definite educational philosophy which will determine the procedures suggested by the unit. It should be based on a recognition of the needs and interests of pupils, who differ greatly in abilities, aptitudes, and interests. Hence it should suggest a variety of learning activities. Since pupils develop standards and values of their own only as they think, plan, judge, make choices, and assume responsibilities, a resource unit should suggest opportunities for pupil participation in planning, developing, and evaluating their work. It should provide suitable materials to further the socialization of pupils; it should help them to face facts and decide and act in the light of all the consequences. It should promote critical thinking concerning the values, mores, and institutions of society.

A resource unit should explore the resources of the community which may be utilized in developing the learning unit. Participation in community affairs helps children and young people gain a better understanding of community conditions and processes and of the world in which they live. Such participation also helps pupils to feel that they belong to the community and provides opportunity to contribute to social welfare.

The pupil activities which are suggested in a resource unit should be based upon sound principles of learning. Among

these are the following: The individual acts as a whole in any situation; physical, emotional, social, and mental development are interrelated, so that the learning unit cannot deal with one aspect of growth without influencing all the others; learning experiences should be suited to the pupil's maturity level and have meaning for him.

The proposals included in a resource unit should be practicable under prevailing school conditions. It would be foolish, for example, to construct a unit calling for types of material which could not be supplied. A unit should be organized in such a way that it can be easily used by teachers. It should have a clean-cut organization and should not be too voluminous or attempt to cover too much ground. The language should be adapted to the vocabulary of the various teachers. The unit should be so constructed as to stimulate professional growth in ability to work democratically with young people. The democratic teacher is a discoverer and learner along with the pupils. He should be sensitive to their interests and needs and ready to consider suggestions they make. The unit should promote the development of such attitudes and activities and through them the professional growth of the teacher.

A unit should help the teacher provide experiences for pupils which call for reflective thinking. Pupils should be given many opportunities for practice in arriving at individual and group decisions through free discussion, and should have freedom to act upon any decision arrived at if it is in harmony with the welfare of the larger group. Reading materials dealing with controversial issues should present all sides of the argument.

It is desirable that a resource unit be developed by several teachers, representing as many subject-matter fields as possible. In this way, rigid departmentalization can be avoided and the contributions of many fields be brought to bear upon immediate concerns of pupils. A unit should contain many more suggestions than any class is likely to use; it is only as this is done that teacher and pupils are in a position to choose the most appropriate materials and procedures. Finally, it is important that the resource unit should be adapted to the maturity of the pupils; ordinarily it should be limited to a range of not more than three grade-levels.

THE form which a resource unit takes, the steps in its development, the order in which they are to be taken, and the parts to be included should be worked out by the teachers who develop the unit. In the following paragraphs, the parts commonly included are presented as suggestions.

In situations in which the basic philosophy of the school has been worked out and is well known to those who are making, or will use, the resource unit, the philosophy of the unit should be consistent with that of the school, and all of the learning activities suggested should reflect the latter. In situations in which such a philosophy has not been worked out, the unit should contain a statement of the underlying philosophy of those who prepared it. In our culture, such a philosophy should be based upon democratic ideals and values. Ordinarily, the statement of philosophy should cover the following points: the nature of the cultural ideals, the nature of the individual, the nature of learning, and the purposes of the school.

A second section of a resource unit should be a clear statement of basic ideals or values, the characteristics of personality, the attitudes, knowledges, habits, and skills to whose development the unit is expected to contribute. For example, if the unit is expected to contribute to the development of reflective thinking, the habit of keeping one's surroundings neat and clean, and skill in the use of certain pieces of apparatus, these should be stated clearly. It is important that this section of the unit be developed with great care, since the activities and evaluation techniques suggested should be based directly upon it.

A clear statement of the general scope of the unit is desirable. This statement should include an impartial discussion of the issues and conflicts, the points of view of leading authorities, and an annotated bibliography. In case the unit cuts across a number of subjects or areas of experience, suggestions should be made as to the possible contributions which each may make to the development of the unit.

Another section of the unit should contain suggestions concerning possible ways the materials might function in developing the various steps of a learning unit. A particular method of use should not be prescribed; the choice is to be left to those who construct and use the learning unit. If the learning unit be conceived as involving three interrelated phases—initiatory

activities, developmental activities, and culminating or evaluating activities—the resource unit should show how its materials could be used for each of these.

The resource unit should suggest as many student activities as possible. Among the types of activity which may be suggested are: planning units of learning, selecting appropriate bibliographical material, selecting and gathering audio-visual materials, utilizing the community, working with other classes to carry out worth-while projects, and using creative and constructive activities.

THE unit should provide suggestions for evaluating the learning-teaching process provided for in the learning unit. The concepts, procedures, and instruments of evaluation suggested will reflect the philosophy of those who construct the unit. If they conceive evaluation as a continuous process which is integral to the learning-teaching situation (as the writers do), they will not be satisfied with a mere measuring of end results. They will rather think of it as an attempt to get insight into the values which teacher and pupils hold, and to secure evidence as to how those values are being applied. Under this concept, evaluation begins when planning the unit begins, and is continuous throughout its use.

Suggestions for evaluation in a resource unit are necessarily general rather than specific. Often they will include suggestions for the use of the following means: paper and pencil tests and evaluation instruments, anecdotal records of pupil behavior, pupil diaries and other records of self-appraisal, jobs and projects undertaken by pupils, school records, written and oral work, and reports and observations by parents.

The resource unit should contain comprehensive lists of available materials which might be found useful in a teaching situation. Obviously, such lists cannot be complete; those who construct a resource unit can anticipate many, but not all, of the needs which will arise in teaching situations.

In many cases, one resource unit will lead into others. Teachers and pupils discover leads as they work with any learning unit; for example, a study of housing might lead to an interest in community health, delinquency, or population trends. Those who prepare a resource unit should be sensitive to such possibilities and indicate some of them clearly.

EDITORIAL COMMENT

Supervised Student Labor

As a result of the manpower shortage, there has been a greatly increased demand for part-time employment of high-school students. In some communities plans have been worked out under which such employment is supervised by the school. The National Child Labor Committee has begun a study to determine "whether or not work experience under school supervision has educational values which should be taken into consideration in future planning of secondary-school curricula." An Advisory Committee for the study has been set up, composed of representatives of the National Child Labor Committee, and of industry, labor, education, psychology, and medicine. Harold J. Dillon, of the Connecticut State Department of Education, has been granted leave of absence for a year to direct the study.

In our opinion, there is only one answer to the question asked in the preceding paragraph. There is no room for reasonable doubt as to the value for proper development of adolescents of the right kind of work experience. One of the greatest defects of modern urban life is that it does not provide adequate opportunities for such experience. There simply is no adequate substitute for it as a part of the education of the young person. If the results of the study now getting under way are unfavorable to the continuation of work experience as a part of secondary education, this will tend to prove either that the secondary schools have done a poor job in organizing the programs and supervising the work of students, or that the methods of study by which the results were obtained were faulty.

This does not mean that the study is not needed. On the contrary, if it is properly carried out it will be one of the most important of contemporary educational research projects. As the announcement by the National Committee states, there are undoubtedly many important questions on which it will throw light. These have to do with effects of employment on school attendance and school work, attitudes of employers, relations to organized labor, the types of work which are most suitable for different types of pupil, the ages or grades at which they

should be introduced, ways in which outside work experience can be correlated with course work, best methods of supervision, and so on. As a result of the study, schools should be in a much better position to inaugurate and carry on sound programs of supervised student work. R. H. E.

Education of Veterans

An editorial in the Educational Research Bulletin for February 14 discussed the education of veterans and called attention to certain responsibilities of state departments of education and public-school people in connection with it. It is a pleasure to report that since that editorial was written a national Work-Conference on Educational Programs for Veterans has made a series of important recommendations respecting this matter.

The conference was under the auspices of the National Education Association, and was held in Washington, February 26–28. About 100 persons, widely representative of educational and related interests, participated. The report is to be published at an early date through funds provided by the American Association of School Administrators.

Those who planned the conference analyzed the general problem of veterans' education into six parts: educational rights and benefits of veterans, educational needs of veterans, guidance services needed by veterans, facilities for veterans' education, accreditation of educational and training institutions and facilities, and curriculum and methods of instruction. These constituted the problems for study by the six committees into which the membership of the conference was divided.

At the opening session, the general aspects of the problem of veterans' education were discussed, and each of the six special problems briefly presented. Following this, the six committees devoted several sessions to their assignments. The discussion by each committee was opened by an analyst, selected before the Conference opened. In general sessions on the final day, the main points of the committee reports were presented and plans for follow-up of the conference were proposed.

There is space here to indicate only a few of the recommendations made by the various committees. One is that Public Law 346 be amended so as to provide more adequate subsist-

ence allowances for veterans with dependents, and do away with the provision that any payments for education be deducted from any future adjusted compensation. Another recommendation would do away with the distinction between veterans who were over, and those who were under, twenty-five years of age at the time of entrance into the service. Under the law as it now stands, the younger veterans are deemed to have had their education or training "impeded, delayed, interrupted, or interfered with," and are thus automatically entitled to full educational benefits. Those older than twenty-five at the time of induction may not receive education or training (except a refresher or retraining course) unless they can prove that such interruption occurred.

It was recommended that in each state department of education a staff member be assigned to the job of stimulating and co-ordinating the program of veterans' education, especially that below the college level. The Committee on Counseling Services Needed by Veterans recommended that in each local community a center be set up to co-ordinate all local counseling, conduct preliminary counseling, make referrals for special counseling, and maintain a follow-up service. Another committee emphasized the necessity of carefully checking educational and training institutions before approving them, and of frequent rechecking to make sure that standards are not relaxed. Several of the committees stressed the importance of treating veterans' education as a form of adult education, and of providing facilities and programs accordingly.

The preceding paragraphs do no more than hint at the wealth of information and suggestions brought forth at the conference. All persons who are concerned with the education of veterans on the local, state, or national level can profit by giving careful consideration to the report when it is available.

R. H. E.

READINGS

Books to Read

HENRY, NELSON B., editor. *Teaching Language in the Elementary School.* Chicago: University of Chicago, 1944. ix+257 pp. (Forty-Third Yearbook of the National Society for the Study of Education, Part II).

This yearbook presents a thorough summarization of the most forward-looking current thought on the teaching of oral and written expression in the elementary school. The basic concern of its committee of writers is "the language needs of children in the normal experiences of membership in family, school, and community groups" (page v). The rôle of the school in guiding language development is conceived primarily as the facilitation of communication. Skills such as spelling, handwriting, usage, and grammar are discussed as tools that serve communication—tools that free the mind of the speaker or writer of "fears that his message may cause his hearers or readers to doubt the competence of the author and therefore attach little or no importance to what he is trying to say" (page 148).

For this reader, the high point of the yearbook is Dora V. Smith's chapter on the "Growth of Language Power as Related to Child Development." Miss Smith discusses the young child's growth in language, the language-development program of the school, the interrelationships of language and thinking, and language as a social instrument in the light of the research available upon these problems. Through its well-organized content and its readable style, this chapter impresses upon one the values of broad, varied, vital language experiences in the total growth of the child.

While the present reader would have hoped for the inclusion of a chapter dealing with a broad overview of the place and meaning of communications in life today, a more discerning discussion of semantics, and some attention to the much neglected art of listening, on the whole, for those concerned with improvements in language-arts programs, this is undoubtedly one of the best single volumes now available on the subject of oral and written expression.

LELAND B. JACOBS

DARLINGTON, MEREDITH WHITLA. *In-Service Education of Teachers and Rural Community Building: A Report of the Program of In-Service Education at Oklahoma Agricultural and Mechanical College.* Stillwater, Oklahoma: Oklahoma Agricultural and Mechanical College, 1944. 72 pp.

This is a report of the program of in-service education of teachers which was carried on by Oklahoma Agricultural and Mechanical College during 1941–42 and 1942–43. It includes a discussion of the principles which should govern such a program, an account of the organization of the program at this college, a description of the several projects which were conducted during the two years, and an evaluation of the program. During the first year, the projects included work with ten local study groups of teachers in three counties, two field workshops of three and two weeks, respectively, and four summer campus workshops, of which only the one on elementary education is described. During the second year, because of war conditions, the off-campus

program had to be restricted to two near-by counties, in which 34 students enrolled—some for group and some for individual work. During the summer session of 1943, a series of five consecutive two-weeks refresher courses was given on the campus.

The report describes these projects in considerable detail and evaluates them carefully. There is a strong emphasis throughout on the importance of making such work functional. This report should be of great value to all those who are concerned with the problem of in-service education of teachers.

R. H. ECKELBERRY

MELBY, ERNEST O., editor. *Mobilizing Educational Resources.* New York: Harper and Brothers, 1943. xi+242 pp.

This is an extraordinarily good book. It is filled with well-organized, forward-looking ideas. George Counts presents the theme of the book by these purposes which he sets up for education:

> First, we must give to the young an understanding and appreciation of the great scientific and technological revolution which has destroyed the world in which we thought we were living and has set the framework of the world which we must build (page 11).
>
> Second, we must give to the young a great and challenging conception of the history, life, and destiny of the American people (page 12).
>
> Third, we must give to the young a vision of a world order in which the American people can live as a free nation (page 13).

Ernest O. Melby and Kenneth Benne indicate that we are unprepared for this task. We lack awareness of the problems to be faced. We lack appropriate materials. We lack organization and leadership.

Harold C. Hand points out that we must clearly recognize that radio, the movies, and the national press exert a powerful educational influence in shaping the minds and conduct of our people.

John K. Norton calls for a new conception of school administration which will reflect the increasing interdependence of American states. He points out on page 163 that "illiteracy, ignorance, physical weakness, and economic incompetency cannot be dammed up within the borders of states and localities." He points out significantly, too, that "the shelves of education libraries now bulge with numerous and excellent reports presenting significant facts and outlining desirable programs which have had practically no results in action" (page 167).

Theodore Brameld presents a vigorous chapter in which he points out that in our democratic faith we must include adventure as well as security, privacy as well as comradeship. I liked especially his well-turned phrases: "Ends without means are empty, but means without ends are blind" (page 186).

William H. Kilpatrick points out that "most men fail to use their inborn personal resources to the full," and that "we can at once say that men work best at what they can see as helping to serve causes they themselves hold dear." Most individuals, he suggests, have far more resources to tap than they are now using. One of his key sentences is this:

> I learn what I live and I learn it as I accept it. I learn it in the degree that I live it, in the degree that I count it important to me, and in the degree that I understand it and can fit it in with what I already know and believe. And what I thus learn I build at once into character—that, in fact, is what to learn means (page 199).

In his concluding chapter, Mr. Counts calls for an independent, powerful,

and informed body of teachers. He points out that up to now we must be classified largely with the silent and disregarded element of our population.

I do not know of any book that teachers and administrators could read today that would give them more insights into the strengths and weaknesses and the future possibilities of the American public school.

EDGAR DALE

MERIAM, JUNIUS L. *Activities, Projects, Units of Work Cataloged for 1932–1939.* Berkeley, California: University of California Press, 1943. vii+270 pp. (University of California. Publications in Education, Vol. 10)

Here is an indispensable reference tool for school librarians and teachers in those schools utilizing units or projects as teaching devices. The author has assembled and here indexed the units found in 426 courses of study, 44 books, and one series of lesson units. The individual units within the sources are classified under some 759 headings, which number the author considers to be too large for an ideal classification.

The arrangement and make-up of the index are excellent. Grade levels are given, if such grade levels have been possible to determine, for each entry. Furthermore, under each subject, such grade levels are grouped in progression from Grade I to Grade VIII.

Most workers in this field are already familiar with "Catalog, Units of Work, Activities, Projects, etc. to 1932" by Carey, Hanna, and Meriam, published by the Lincoln School of Teachers College, Columbia University. That publication covers materials appearing from 1925 to 1931, inclusive. The two indexes, therefore, include the best of such material published over a fifteen-year period. Their similarity of organization and arrangement will make them easily used together. The present publication is the better of the two in that sources seem more carefully selected and that details of arrangement are better worked out. We are grateful to Mr. Meriam for this very useful aid in a field otherwise confused and difficult.

RUTH E. SEEGER

LAWRENCE, CHESTER H., editor. *New World Horizons* (Text Edition). New York: Silver Burdett Company, 1942. 94 pp.

In the Foreword by Walter Riston, one of the advisers in the preparation of this volume, he properly directs the reader's attention to the growing interest in the science of geography on the part of the United States Government and the laymen. This book is intended to answer "many of the laymen's questions" concerning the theaters of war. Its contents are designed for those persons who perhaps were last exposed to formal geography teaching "in the fifth or sixth grade." Although *New World Horizons*, both in text and striking graphic form, does answer many questions, its brevity precludes a presentation of world affairs geographically interpreted. The science of geography is not quite so simple as is implied here. If one is skilled in map reading, he can derive even more for himself from the maps than from the text.

Photographs are numerous, as are the maps, the latter in impressive color. Unfortunately, many of the maps lack indicators of latitude and longitude and scale.

If maps have any purpose at all, it is to show locations and to provide a means of orientation. This can not be done successfully without revealing something of the grid which was essential in the first place to construct the map. The reader may break the book at pages 66–67. On page 67, he finds a map of southeastern Asia. Upon a smaller map, China is superposed upon the United States for comparative purposes. But unless the reader refers to some of the maps on earlier pages he does not know whether the latitude of the two regions is the same. Again, on the hemisphere maps, pages 30 and 46 respectively, meridians and parallels go unnumbered.

EUGENE VAN CLEEF

WHITSEL, JOHN A.; LERNER, PAUL A.; NEWKIRK, LOUIS V.; COOVER, S. L.; AND WILBER, GORDON O. *Wartime Uses of Industrial Arts Laboratories.* New York: American School and University, 1943. 39 pp.

The contributors to this publication represent industrial-arts areas of three teacher-preparatory institutions, and one large and one small city, in the order listed—Miami University, California, (Pennsylvania) State Teachers College, Oswego (New York) State Teachers College, Chicago, and Troy (Ohio) public schools. The articles composing this symposium are reprinted from the 1943 edition of the American School and University, under the direction of William E. Warner, Ohio State University, now on leave for military service abroad. The symposium presents an encouraging picture of the flexibility of modern industrial arts in meeting changing social-economic needs in wartime as well as in peace, not merely in theory but particularly in practice, since careful accounts of going programs constitute the chief contribution. These materials are profusely illustrated, not only by photographs, but by many detailed drawings of laboratory layouts and equipment. Even the eleven pages of advertisements, which no doubt make the reprint possible, acquaint the less-informed reader with some of the best lines of laboratory equipment.

WILLIAM H. STONE

DEYOE, GEORGE P. *Supervised Farming in Vocational Agriculture.* Danville, Illinois: The Interstate, 1943. 502 pp.

The first impression one receives as one reviews this book is the number and quality of most appropriate illustrations. Then, at each chapter ending are found references of unusual quality which supplement the chapter content. Examining the content, one finds the core of vocational teaching which is covered in the title explored clearly, completely, and in a manner most helpful to the reader who is interested in doing a good job as a teacher of vocational agriculture. Every phase of the program of the vocational teacher is explored in detail in its relationship to this key activity—supervised farming. Procedures in securing good supervised farming programs are clearly presented, from purposes and goals through selecting, planning, developing, supervising, record-keeping, establishment in farming, and evaluating. Two words—clearness and appropriate illustrations—emphasize the merit of this book to every teacher of vocational agriculture. This reviewer places it among the very few best books for this group of teachers.

W. F. STEWART

Conservation Education Looks Ahead

[*Continued from page 60*]

Ohio, will be superintendent of the Camp and directly in charge of the educational program. The teaching staff will include specialists in geology and soils, plant ecology, animal ecology, economics and sociology, teaching aids, and public education. These specialists will not teach separate courses in their subject-matter fields, but will co-operate in teaching one comprehensive course centered around the significance of conservation for human living and how conservation facts and principles can be taught effectively in elementary and secondary schools. This course will be conducted in such a way that teachers of primary grades, intermediate grades, and the various secondary-school subjects will be encouraged and aided to make applications of facts and principles to their own situations.

The course of instruction will carry six to eight hours of junior, senior, or graduate credit. Since members of the Laboratory will be regularly enrolled students of the Ohio State University, they will be required to meet the regular entrance requirements. The total cost for residents of Ohio will be $90, which includes incidental fee, laboratory fee, and cost of board and lodging. Non-residents of Ohio will be required to pay a non-resident fee of $25 in addition. A number of service scholarships will be available. Enrollment will be limited to 75; those who desire to enroll should make reservations promptly. Reservations and inquiries should be addressed to D. H. Eikenberry, chairman, Department of Education, Ohio State University, Columbus 10, Ohio.